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I, LEANNE MYNOTT, MANAGER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2003905238 for a patent by DAVID JOHN TASKER as filed on 26 September 2003.



WITNESS my hand this
Tenth day of December 2003

A handwritten signature in black ink, appearing to be "L. Mynott".

LEANNE MYNOTT
MANAGER EXAMINATION SUPPORT
AND SALES

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AUSTRALIA
Patents Act 1990

PATENT REQUEST: PROVISIONAL APPLICATION

ENTIRELY REFLECTING LOUDSPEAKER ENCLOSURES

**The following statement is a full description of this
invention, including the best method of performing it
known to me:**

ENTIRELY REFLECTING LOUDSPEAKER ENCLOSURE/S

The invention relates to improvements to sound propagation from loudspeaker enclosure/s.

For many people the sound from conventional loudspeakers is not very realistic. This problem is substantially overcome by the present invention, entirely reflecting loudspeaker enclosure/s.

The entirely reflecting loudspeaker enclosure/s propagate coherent, dynamic sound. Within the contemporary enclosure/s horn throat, sound pressure level is eleven decibels higher than the sound pressure level one metre distance in front of the loudspeaker enclosure/s horn mouth. The extra eleven decibel sound pressure level within the enclosure generates higher dynamic range and increased bass frequencies sound pressure level in a listening area. In reality piano bass notes resonate and are sensed and felt, which the contemporary design emulates and also bass standing wave effects are substantially reduced. Treble frequencies are not emphasised and do not affect bass and midrange frequency resolution and the subtle information that is fundamental to high fidelity sound can be heard transparently and sound has a sense of weight which is produced by deep and controlled bass.

The majority of conventional loudspeakers radiate sound directly from transducer/s to a listening area and a minority of loudspeakers radiate partly direct and partly reflected sound into a listening area and have the disadvantage of diffraction and echo from the floor, walls and ceiling and these diffraction and echo soundwaves affect sound resolution. Sound from the contemporary entirely reflecting horn loudspeaker enclosure/s reduce the acoustic effects of diffraction and echo that a room or nearby environment generates acoustically by directing the sound away from such surfaces and the acoustic improvements are aurally perceived.

The Fletcher, Hertz/decibel graph of human hearing responsiveness at low sound pressure level shows that midrange frequencies are relatively linear when compared to bass and treble frequencies, which are rolled off or heard at a lower sound pressure level and require boosting to be linear with midrange sound pressure level. Listener/s perceive entirely reflecting loudspeaker enclosure/s as propagating substantially linear frequency response sound pressure level at both low and high sound pressure level within nine metres from the loudspeaker enclosure/s mouth. As described before, the eleven decibel increase in sound pressure level within the horn throat generates substantially linear sound pressure level in a listening area. These sonic improvements create a more pleasurable auditory experience.

IN THE DRAWINGS:

To assist in understanding the contemporary invention reference will now be made to four examples and accompanying drawings.

5

The entirely reflecting loudspeaker enclosure/s transducer/s are driven by amplifier output/s of conventional reproduction equipment for indoor and outdoor sound propagation.

- 10 The entirely reflecting loudspeaker enclosure/s horn shall comprise panels consecutively adjoining at precise angles to form a horn throat where sound is entirely propagated, reflected and directionally dispersed from the horn mouth toward a listening area. The listening area shall be within nine metres to the loudspeaker enclosure/s.

15

The entirely reflecting loudspeaker enclosure/s, floorstanding, or wall mounted, or on shelf, or on stand, or hung in open space shall have specifications and shape substantially as in figures 1 to 30 and enclosure/s height, depth and width shall be dependant on transducer/s size/s.

20

The entirely reflecting loudspeaker enclosure/s comprise two parts.

(i) Part One reflecting horn comprises three consecutive adjoining panels - Panel A, B and C and two vertical side panels and a base panel. The

- 25 transducer/s baffle panel A shall adjoin rear reflecting panel B. Panel A tilt angle to adjoining panel B shall be thirty degrees and transducer/s attached to baffle panel A face toward rear reflecting panel B and the transducer/s front centre shall be between twenty centimetres and thirty centimetres distance to rear reflecting panel B. Rear reflecting panel B

- 30 shall be vertical or tilted dependant upon required sound dispersion direction from the horn mouth toward a listening area. The top reflecting panel C shall consecutively adjoin panel B and shall be one hundred and ten degrees to rear panel B. The base panel adjoins panels A and B and two vertical adjoining side panels. The two vertical side panels shall also

- 35 be adjoining panels A, B and C, and the base panel and shall form a horn where sound shall be propagated, reflected and dispersed directionally from the horn mouth toward a listening area. (ii) Part Two, transducer/s enclosure comprising six panels, being top, base, two vertical sides, front and internal transducer/s baffle panel A, and shall be adjoining Part One

- 40 and shall share the common internal transducer/s baffle panel A.

Figures 1 to 30, and pages 1 to 12 comprising entirely reflecting loudspeaker enclosure/s for indoor and outdoor sound propagation.

Figures 1, 2, 3, 4, 5, 6 and 24 floorstanding, or wall mounted, or on shelf, or on stands, or hung in open space and the horn mouth shall face toward a listening area.

5 Figures 7, 8, 9, 10, 11 and 25, wall mounted, or on shelf, or on stand and the horn mouth shall face toward a listening area and the horn mouth shall be situated between fifty centimetres and one hundred and fifty centimetres above floor level.

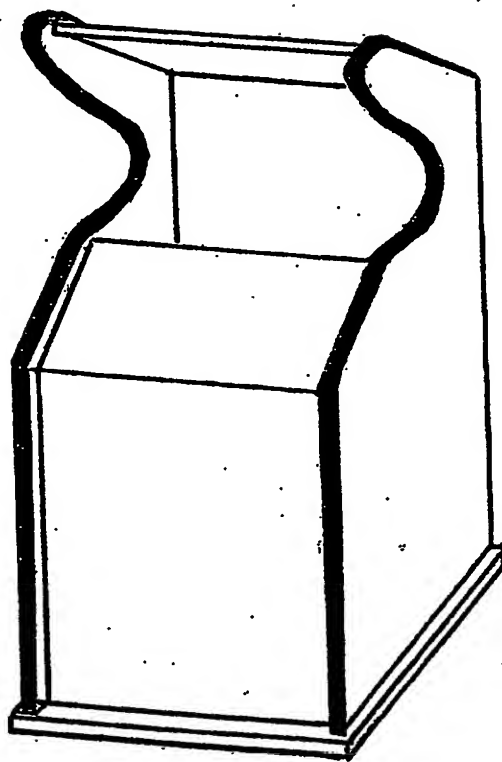
10 Figures 12, 13, 14, 15, 16 and 26, wall mounted, or on shelf, or hung in open space with horn mouth situated above one hundred and fifty centimetres above floor level and the enclosure/s may be inverted one hundred and eighty degrees and the horn mouth shall be tilted downward and face toward a listening area.

15 Figures 17, 18, 19, 20, 21 and 27 floorstanding stage monitors with rear reflecting panel B backtilt between sixty degrees and eighty degrees to floor level and backtilt angle shall be dependant on the height of stage performer/s ears above floor level and the transducer/s baffle panel A
20 shall be thirty degrees to the rear reflecting panel B and the top reflecting panel C shall be one hundred and ten degrees to the rear reflecting panel B and the horn mouth shall face upward toward stage performer/s ears.

25 Figure 22, entirely reflecting loudspeaker enclosure/s on vehicle interior rear window shelf, situated with horn mouth above the rear window shelf and face forward toward the vehicle front and the transducer/s enclosure/s part below the horn mouth shall be below the rear window shelf. Figure 23, example for vehicle interior and the loudspeaker enclosure/s shall be mounted in or attached to vehicle rear panels or
30 doors and the horn mouth shall face forward toward the vehicle front.

The entirely reflecting loudspeaker enclosure/s may be constructed of timber, plastic materials, metal or any other suitable material.

35 It shall be realised that the entirely reflecting loudspeaker enclosure/s according to the invention are not restricted to flat panel enclosure/s and may in another form have curved panels and the specifications and shape shall be substantially as herein before described with reference to the accompanying drawing figures 1 to 30.



— PERSPECTIVE VIEW —

Figure 1

ENTIRELY REFLECTING LOUDSPEAKER ENCLOSURE
(CURVED SIDE PANEL VERSION)

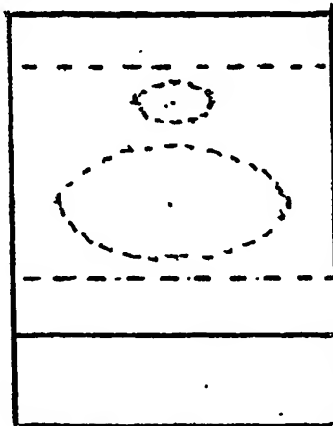


Figure 2

— PLAN —

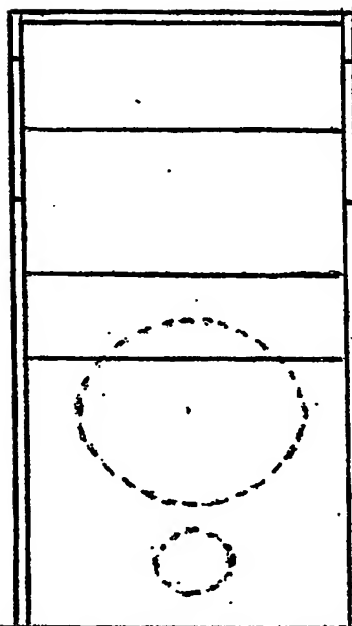


Figure 3

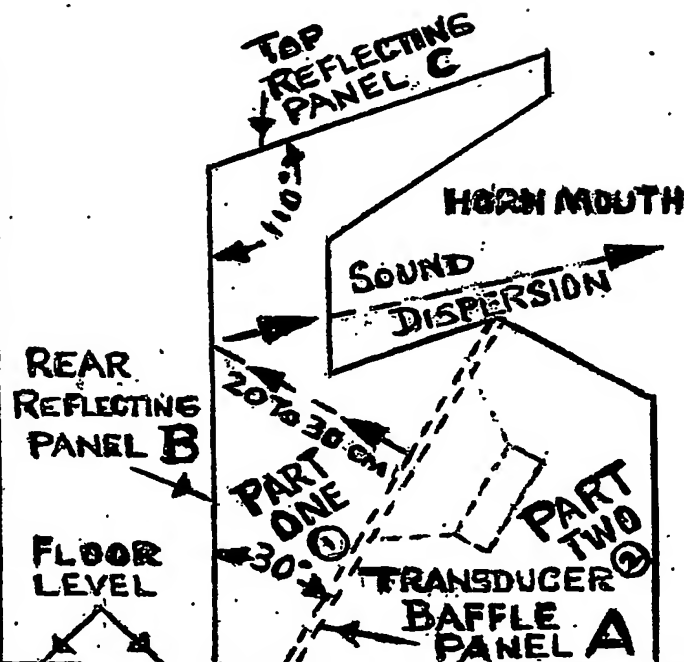


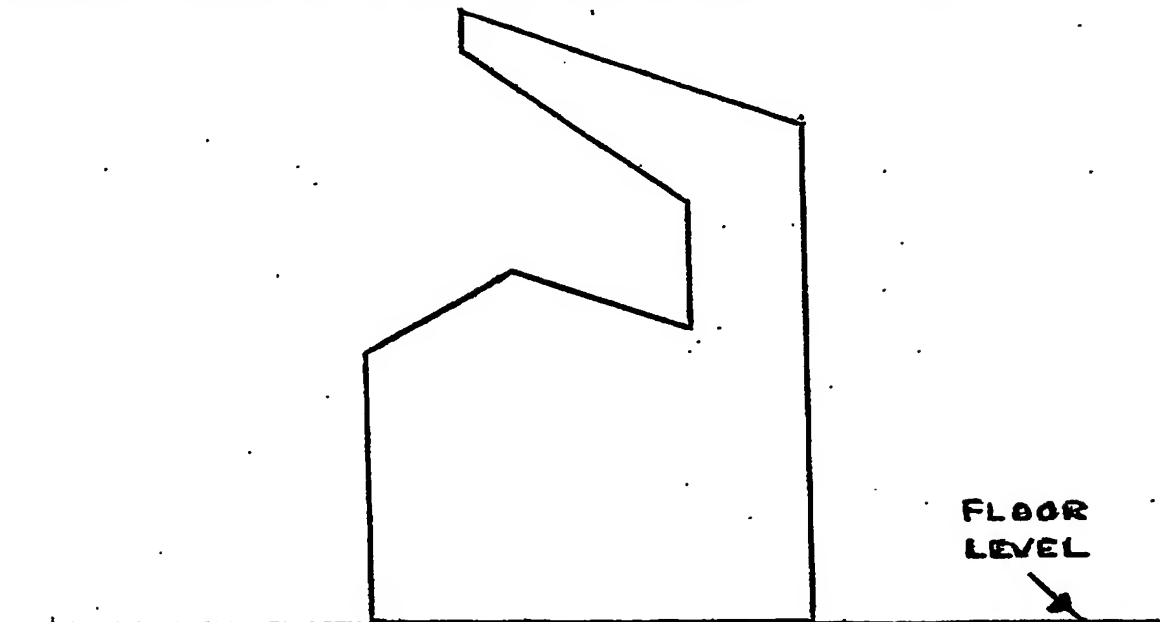
Figure 4

— FRONT ELEVATION —

— SIDE ELEVATION —

FLOORSTANDING

ENTIRELY REFLECTING LOUDSPEAKER ENCLOSURE



- SIDE ELEVATION - Figure 5 (FLOORSTANDING ENCLOSURE)

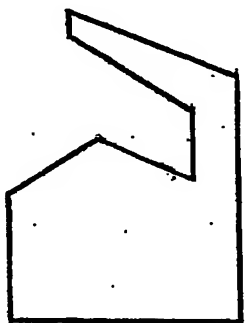


Figure 10 - SIDE ELEVATIONS -

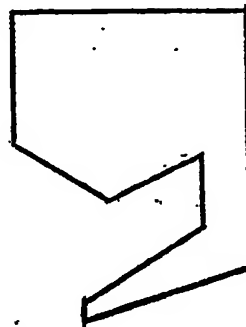


Figure 15 (INVERTED)

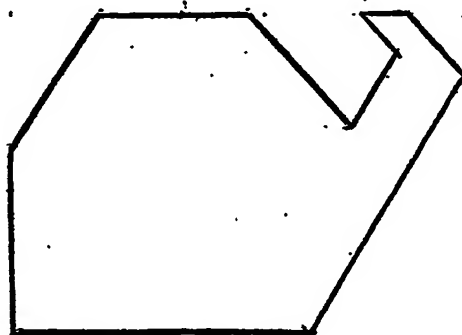
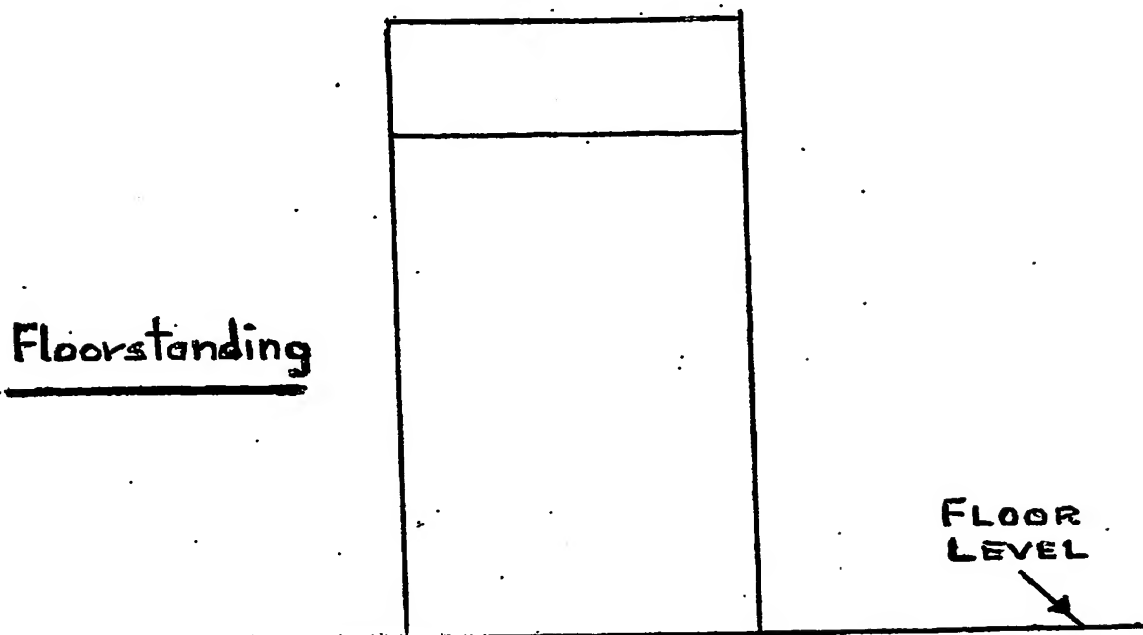
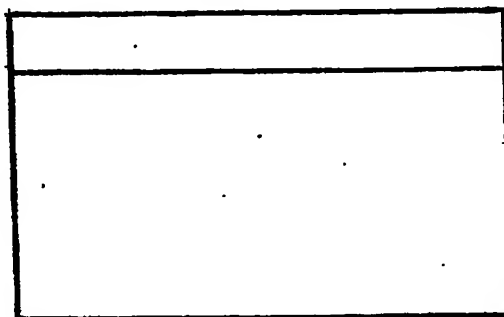


Figure 21 (STAGE MONITOR)



- REAR ELEVATION - Figure 6

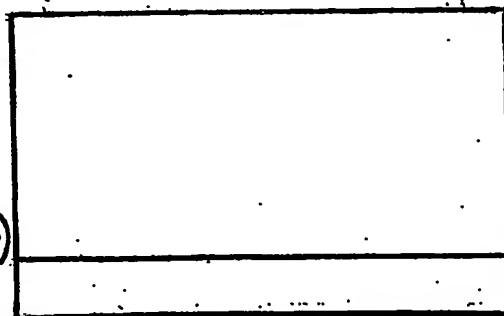
Wall mounted
or On Shelf
or On Stand



- REAR ELEVATION - Figure 11

Wall mounted
or Hung

(ENCLOSURE INVERTED)



- REAR ELEVATION - Figure 16

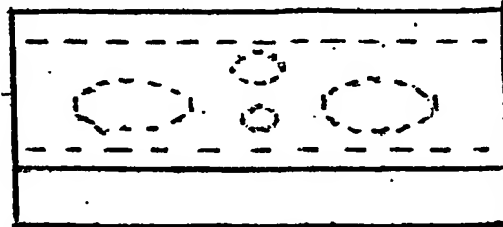


Figure 7
— PLAN —



Figure 8
— FRONT ELEVATION —

50 cm
to
150 cm
above
floor
level

Floor level

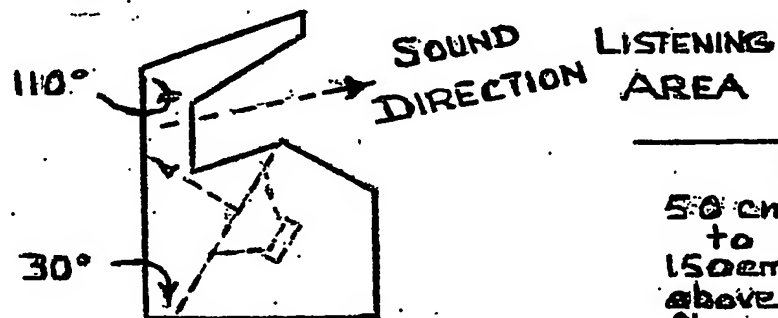


Figure 9
— SIDE ELEVATION —

50 cm
to
150 cm
above
floor
level

Wall mounted or On Shelf or On Stand
Entirely Reflecting Loudspeaker Enclosure/s

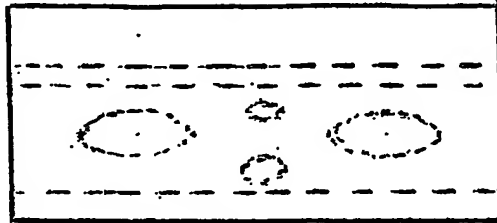
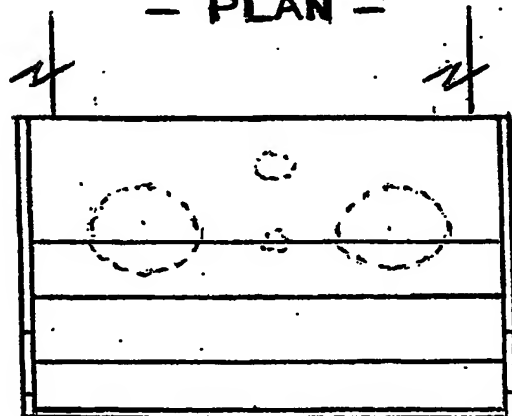


Figure 12
- PLAN -



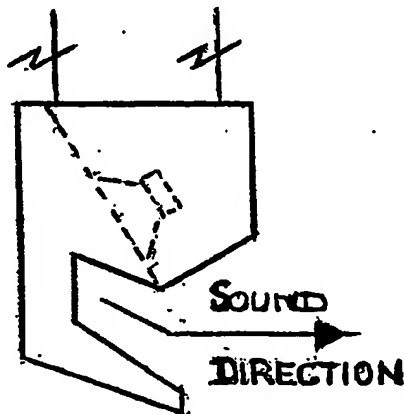
ALTERNATIVE
HANG CHAINS

Figure 13

- FRONT ELEVATION -

FLOOR
LEVEL

ABOVE
50 CM
ABOVE
FLOOR
LEVEL



LISTENING
AREA

Figure 14

- SIDE ELEVATION -

Wall mounted or Hung

ABOVE
50 CM
ABOVE
FLOOR
LEVEL

INVERTED Entirely Reflecting Loudspeaker Enclosure/s

FLOOR LEVEL

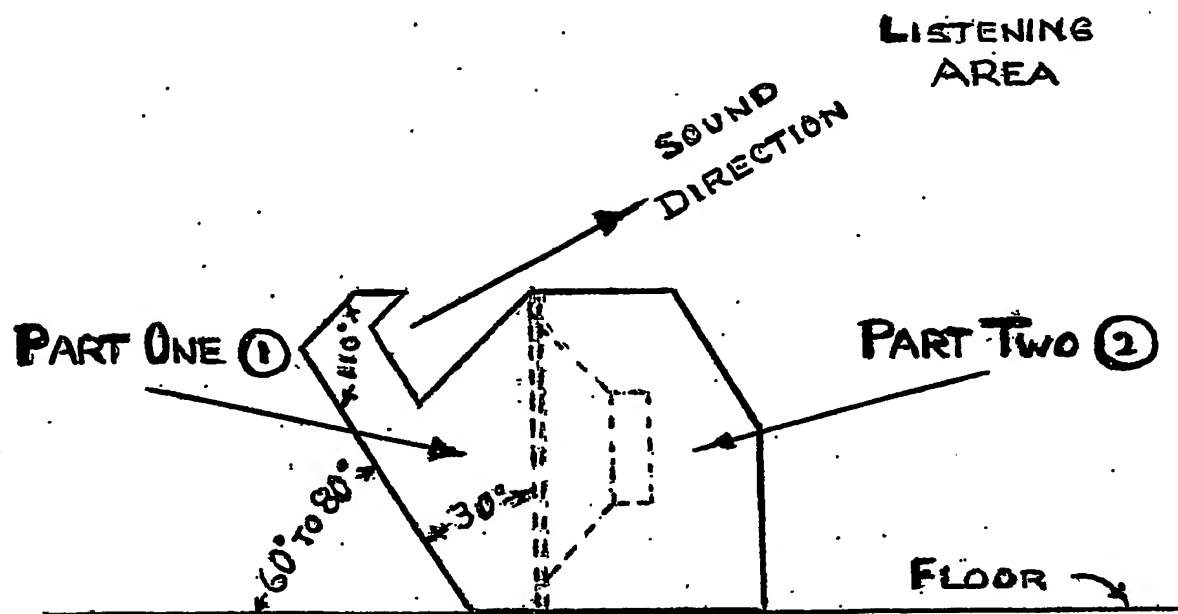


Figure 17
— SIDE ELEVATION —

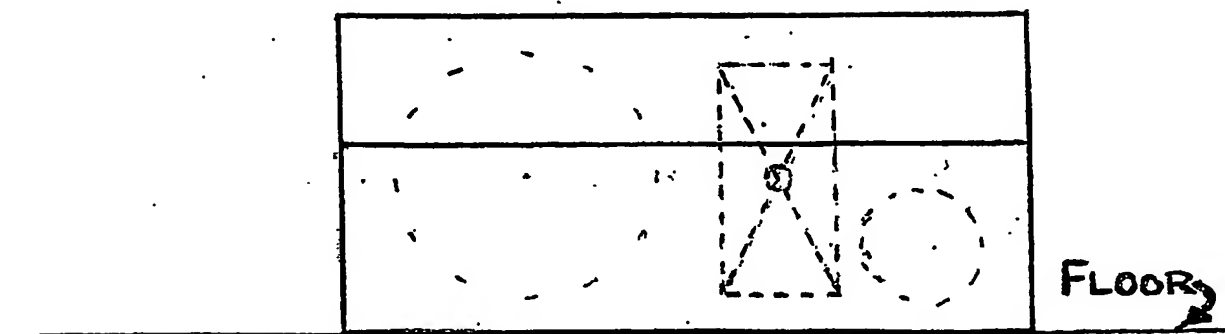


Figure 18
— FRONT ELEVATION —

Stage Monitor - Entirely Reflecting Loudspeaker Enclosure

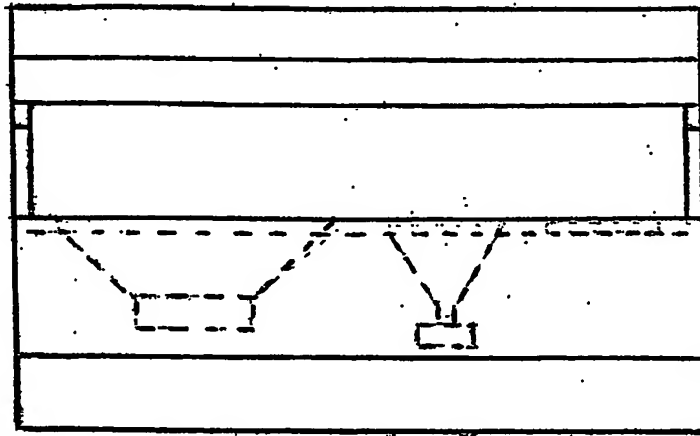


Figure 19
- PLAN -
Stage Monitor

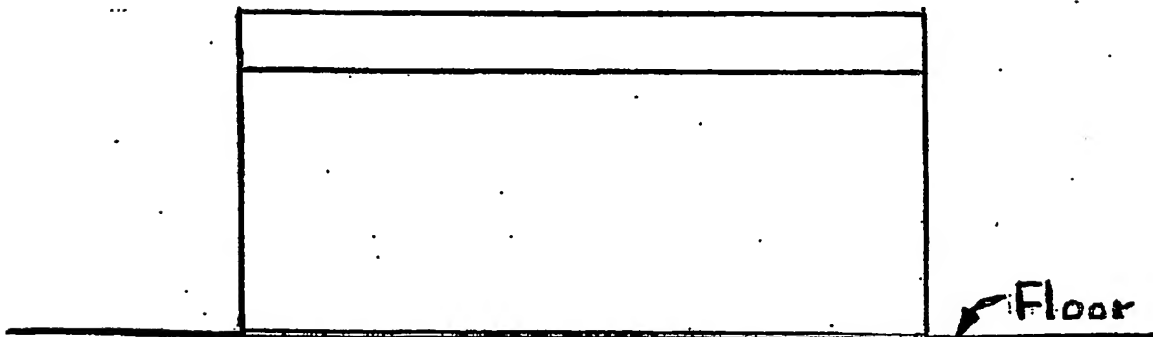
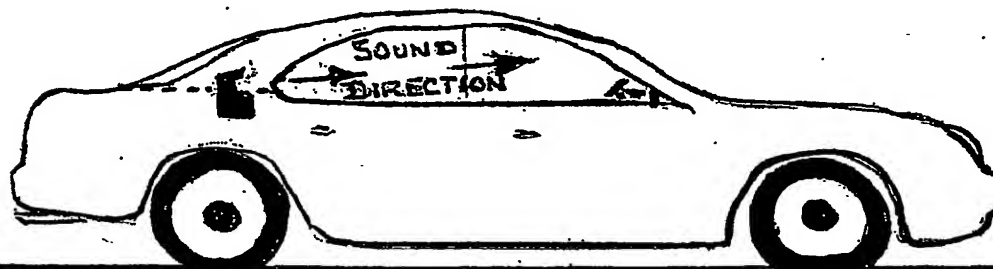


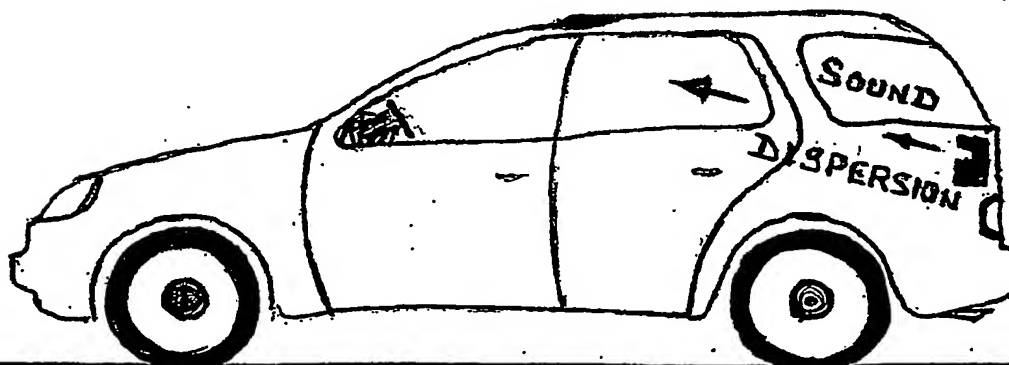
Figure 20
- REAR ELEVATION -
Stage Monitor - Entirely Reflecting Loudspeaker Enclosure

VEHICLE ENTIRELY REFLECTING LOUDSPEAKER ENCLOSURE



VEHICLE EXAMPLE WITH LOUDSPEAKER ENCLOSURE HORN
MOUTH ABOVE REAR WINDOW SHELF FOR FORWARD
DISPERSION OF SOUND

Figure 22



VEHICLE EXAMPLE WITH LOUDSPEAKER ENCLOSURE/S
MOUNTED ON REAR DOOR OR PANEL FOR FORWARD
DISPERSION OF SOUND

Figure 23

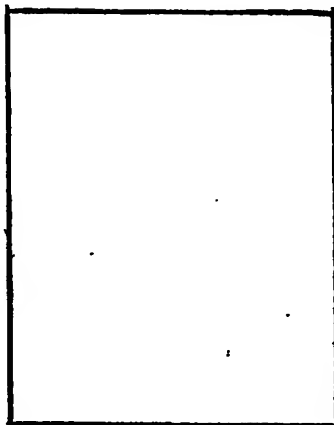


Figure 24 (WITH REFERENCE TO FIG. 2)

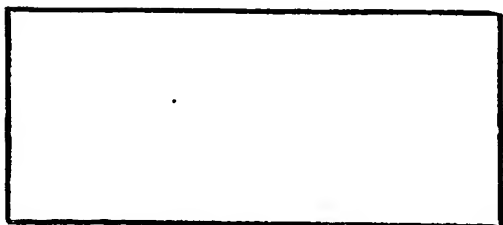


Figure 25
(WITH REFERENCE TO FIG. 7)

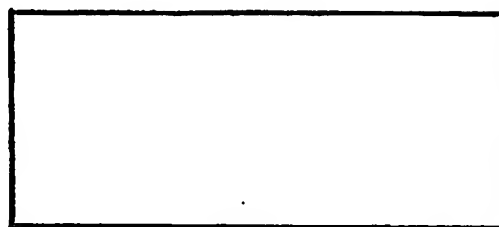


Figure 26
(WITH REFERENCE TO FIG 12)

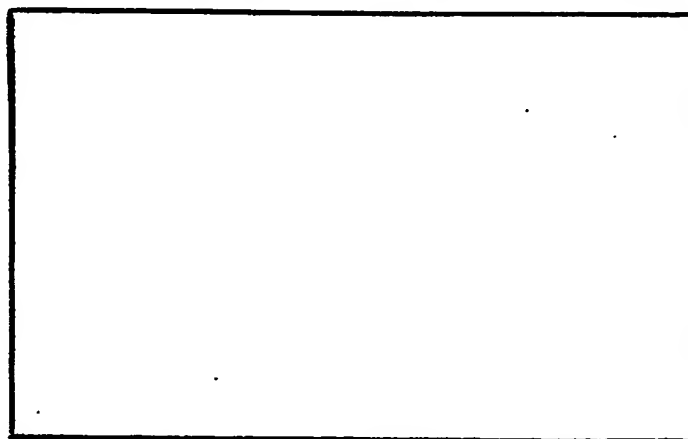


Figure 27 (WITH REFERENCE TO FIGURE 19)

Figures 24-25-26-27- ENCLOSURE BASE (underneath) VIEWS -

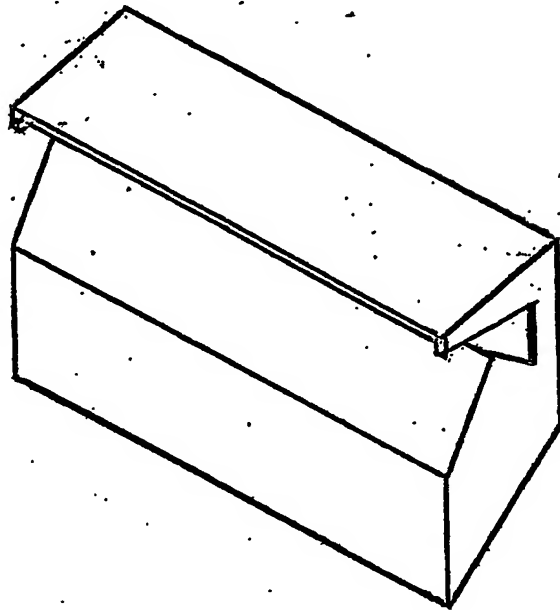
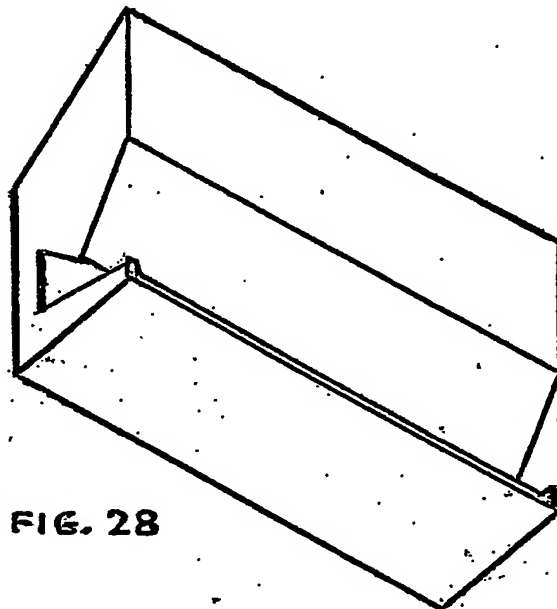


Figure 28

- PERSPECTIVE VIEW - (WITH REFERENCE TO FIG. 8)



INVERTED VERSION OF FIG. 28

Figure 29

- PERSPECTIVE VIEW - (WITH REFERENCE TO FIG. 13)

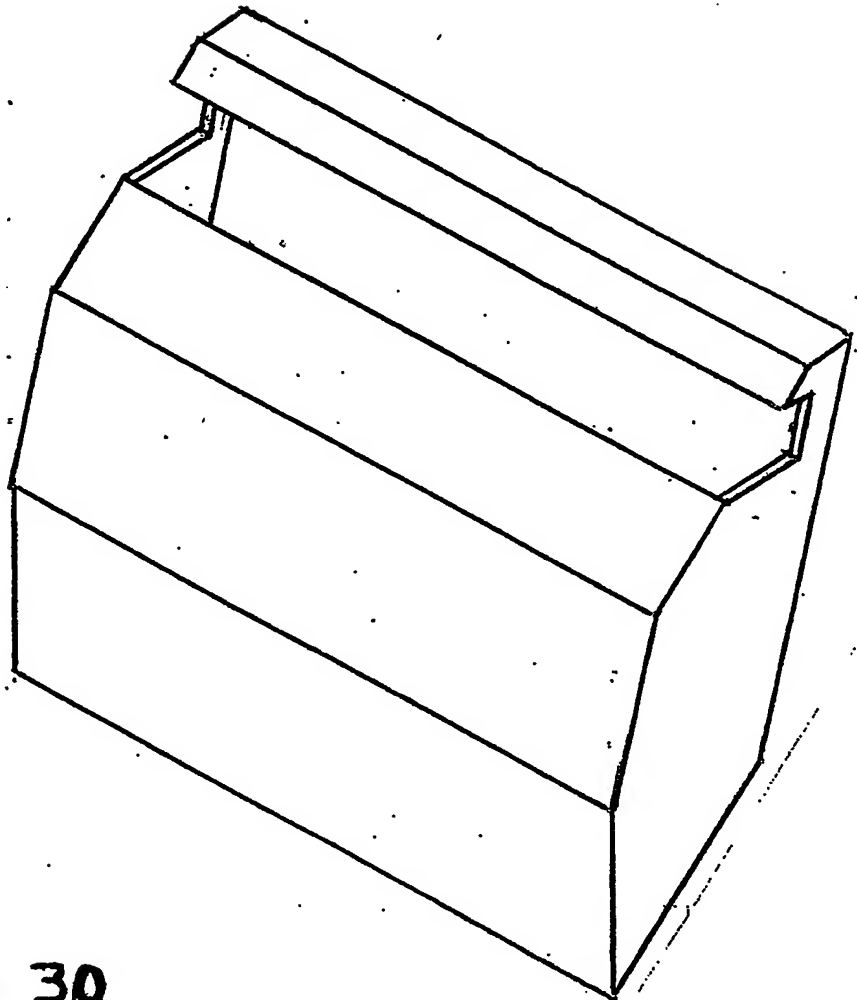


Figure 30

— PERSPECTIVE VIEW —
(WITH REFERENCE TO FIG. 18)

STAGE MONITOR
ENTIRELY REFLECTING LOUDSPEAKER ENCLOSURE

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